

Anchorage Amateur Radio Club

Christmas Party December 9

IN THIS ISSUE:

Tidbits from the Editor
All HAM Christmas Party

An Alaskan HAM Radio Store!
The Copper Cactus Antenna
And Much Much More

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AARC web page & Email contact addresses:

<http://kl7aa.akconnect.com>

president to windsman@alaska.net

webmaster to kl7aa@lawson.akconnect.com

membership to frederickson@iname.com

activities to kl0cy@arri.net

News Letter Submissions, Information or corrections:

Submissions must be received 2 weeks before meeting

Email: KL0CY@arri.net Facsimile: 907-338-4791

Mail: 7013 Trafford Ave. Anchorage 99504

KL7G CODE PRACTICE SCHEDULE

Schedule: 7:00am, 10:00am, 4:00pm, 7:00pm, 10:00pm
AK time, every day Frequencies: 3575 kHz, 7075 kHz &
145.35 MHz: Sending Speeds: 22 wpm, 15 wpm, 7 wpm

Nets in Alaska:

The following nets are active in South-central Alaska:

Alaska Sniper's Net 3.920 MHz 6:00 PM daily

Alaska Bush Net 7.093 MHz 8:00 PM daily

Alaska Motley Net 3.933 MHz 9:00 PM daily

Alaska Pacific Emergency Preparedness Net 14.292 MHz
8:00 AM M-F

QCWA net 146.97/.37 repeater Sundays 8:00 PM local

850 No Name Net 146.85/.25 repeater Sundays 8:00 PM

Son of Sideband Net 144.20 USB Mondays 9:00 PM local

Big City Simplex Net 146.520 FM Tuesdays 8:00 PM local

ARES net 147.30/.90 MHz Thursdays at 8:00 PM local

PARKA net 147.30/.90 MHz Thursdays at 9:00 PM local

Anchorage & Mat Valley Area Repeaters

KL7AA systems at Flattop Mt., 2,200 ft

146.34/94 MHz, 80 watts, autopatch, 100/141.3 Hz PL

223.34/224.94, 25 watts, no patch, no PL

444.70/449.70, 25 watts, autopatch, 100/141.3 PL

KL7ION at Mt. Gordon Lyon 4,700 ft

147.30/90 MHz - 80 watts, no patch, no PL

KL7AA, Mt. Alyeska, 2,400 ft.

146.16/76 MHz, 25 watts, no patch, 141.3 Hz PL

KL7CC, Anchorage Hillside, SCRC club

~~temporary down~~ 146.97/.37 MHz, autopatch, 103.5 Hz PL

KL7DJE at Grubstake Peak, 4,500 ft.

147.09/.69 MHz, 25 watts, no patch, 100 Hz PL

444.925/449.925, 10 watts, no patch, 141.3 Hz PL

KL7JFU, KGB road, MARA club

146.85/.25, autopatch, no PL

KL7AIR Elmendorf, EARS

146.67/.27, 1072. Hz PL

KL7G West Anchorage & Events

449.65/444.65 MHz, patch, no PL

Anchorage & Mat Valley Simplex Frequencies

146.52 Mhz Calling and Emergency frequency

147.57 / 447.57 (crossband linked) HF spotters & chat

146.49 Mhz Anchorage area simplex chat

146.41 Mhz Mat Valley simplex chat

HOT LINKS

Internet Web links, the favorites from our readers

AARC <http://kl7aa.akconnect.com>

New URL for SCRC Web Site

SCRC <http://www.home.gci.net/~worcester/scrc.htm>

EARS <http://www.qsl.net/kl7air>

MARA <http://www.obarr.net/mara/>

Moose HORN ARC <http://www.alaksa.net/~kl7fg>

ARES <http://www.qsl.net/alaskaares>

KL7J <http://www.alaska.net/~buchholz>

Fairbanks AARC:

<http://ffdlm1mac.uafsof.alaska.edu/aarc/aarc.html>

Yukon Amateur Radio Association:

<http://www.klondike.com/yara/index.html>

HAARP Project:

<http://server5550.itd.navy.mil/projects/haarp/>

<<Amateur Radio Reference Library>>

<http://www.area-ham.org/library/libindex.html>

Hamradio: <http://www.hamrad.com/>

Solar Terrestrial Activity <http://209.130.27.95/solar/>

ARRL <http://www.arrl.org/>

Propagation Report Recording 566-1819

please let us know if there are other club pages or good starting points that should appear here

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ABACUS RADIO REPAIR

Factory authorized service for: Kenwood, ICOM,
Yaesu, Alinco, Amateur radio equipment.
Call Jim Wiley, KL7CC (907) 338-0662

ALASKA HAM RADIO SUPPLY

Ken Weldon, AL0R proprietor
20950 Chickadee Lane in Chugiak, 688-2563
email northpaw@gci.net or al0r@arrl.net

NEWSLETTER ARTICLES: All articles from members and interested persons are very welcome. If you wish to submit any articles, jokes, cartoons, please have it typed or neatly handwritten. It can be submitted by computer disk, fax, or E-mail to the newsletter editor at the address listed on the cover. Submissions must be in the hands of the editor at least two weeks prior to the meeting.

Regular HAM Gatherings:

* **Tuesdays, 11:30 AM to 1:00 PM:** Join the gang for lunch and an eyeball QSO at the Royal Fork, Penland Park, East.

Saturdays, 7:30 AM: Here is a great way to get started on the week-end come and meet with some of the locals and have a great breakfast at Phillips Restaurant, at the corner of Arctic and International. Great Fun.

This Month's Speaker

The speaker for this month will be short, plump and funny. The regular meeting we be somewhat frivolous but the door prize will be an ADI dual band handheld. There is a big change, the Christmas Party this year will be for all HAM's at the Northern Lights Inn on Thursday December 9. Contact KL0CY, KL7CC or KL7CDG for RSVP. Tickets will be \$15.00 per person and there will be an Chinese Gift Exchange for those who wish to participate.

THIS MONTH'S EVENTS

December 7: EARS general meeting at 7:00 PM 1st Tuesday of the month, in the basement of Denali Hall (building 31-270) on Elmendorf AFB.. Talk in on 147.27 simplex.

December 1: VE License Exam 6:30 PM, 1st Wednesday of the month, Carr-Gottstein Building, APU Campus. Bring photo ID, copy of license (if any) and any certificates of completion.

December 3: AARC general meeting <<not the Christmas Party>> at 7:00 PM 1st Friday of the month in the Carr-Gottstein Building, on the APU Campus. Talk in will be on 147.300.

December 9: All HAM Christmas Party at 6:30 PM 1st at the Northern Lights Inn, Contact KL0CY, KL7CC or KL7CDG for RSVP. Tickets \$15.00 each, Chinese Gift Exchange with \$15.00 limit

December 10: SCRC general meeting - Canceled this month only due to the Christmas Party

December 11: ARES Planning Committee 09:30 AM to 12:00 PM. 2nd Saturday of the month. Will be held at the Alyeska Main Building on Bragaw north of Northern Lights.

December 11: VE License Exams at 2:00 PM. 2nd Saturday of the month at Hope Cottage 540 W. International in the Board Room. Be sure to bring photo ID, copy of license (if any) and any certificates of completion.

December 14: AARC Board meeting at 7:00 PM 2nd Tuesday of the month at Boniface Bingo

December 18: PARKA Meeting at 11:00 AM. 3rd Saturday of the month at Peggy's, across from Merrill Field

December 30: MARA meeting at 7PM this is a change of date due to New Years! the normal pattern is the last Friday of the month at the MTA office in Palmer.

An Alaskan HAM Radio Store!

Warren "Ken" Weldon, ALOR has opened a shop specializing in amateur radio. He is calling it ALASKA HAM RADIO SUPPLY. It is located at 20950 Chickadee Lane in Chugiak. You can call 688-2563 or email northpaw@gsi.net. To get there, just take the South Peters Creek exit to the east and on the frontage road north to 1st right, Chickadee Lane. The hours will be announced, orders can be taken anytime.

There will be a full line of Arrow and Shoestring Antenna products, V.I.S. flash cards along with used ,consignment and more.

Just a quick note .Today ups delivered my new MFJ259B HF/VHF SWR Analyzer. This will go into the rental service (\$20.00/48 hours).Also in rental are Tower jack, leg aligner and guy wire tensioning kit, torque wrench and soon a gin pole.

Tidbits from the Editor KL0EO

Health and Welfare : Roy, KL4T, is doing fine on his new knee. It looks like he will be moving to the Anchorage Pioneers Home soon.

Chuck, KL7PJ, is in the hospital with some sort of problem. He is in the CCU, and is doing well, with the Doc's looking out for him all the time. The problem is NOT his heart, which as many of you know, received a new pacemaker earlier this year. He is expected to be in for at least a few more days. Marge will keep us informed as to progress. LATE NOTE: Chuck is back home now, and resting. He compares his experience to "being dragged through a knothole!"

All HAM Christmas Party

Something new this year for the annual Christmas Gala Event. The Christmas Party will be held at the Northern Lights Hotel at 598 w. Northern Light Blvd. Starting time for no host cocktails will be 6:30 PM with dinner being served at 7:00 PM. We will be in the combined Klondike and Northern Lights rooms. Seating will be 8 people around each table.

Due to scheduling problems, the normal APU site was unavailable. The South Central ARC (SCRC) bunch already had this event in motion for their party, and when it became known that AARC was, shall we say, "homeless", they invited us to join them. It should be the best event in years, and the first time for many to experience a combined club event. Here's a chance to meet some new faces and renew old acquaintances. We are hoping that the EARS (Elmendorf AFB) crew attends too. They are also invited.

However, due to the large number of people who are anticipated, it is mandatory that we know if you are planning to attend, and how many will be in your party. The hotel must know how many meals to prepare. **Therefore, you MUST notify one of the 3 contact persons (listed later) of your intentions. If you just show up at the door expecting to get a seat, you might be in for a disappointment – big time!**

Deadline for making your reservation is Monday, December 6. If you call after that date, we cannot guarantee that we will be able to find you a seat.

Pre-payment will be accepted for as many as can make it, which helps us get the event off to a good start, but we will accept payment at the door. Pre-payment is preferred, however. It makes everything easier for all concerned. Checks should be made out to SCRC (South Central Radio Club).

If you are planning on paying at the door, please come a little earlier than you would otherwise arrive, because some delays are to be expected if there is a jam at the ticket table. In a like manner, we will have a LITTLE flexibility in accommodating surprises, but if we find ourselves running out of room, only those with confirmed reservations will be let in.

If you find out suddenly that you cannot attend after having made a reservation, then no problem as long as you give at least 24 hours notice. **If you cancel your reservation less than 24 hours from the event, you will be expected to pay for your meal(s) even if you do not attend.**

The menu is Roast Beef in Mushroom Gravy, Chicken Breasts Dijon, and Lemon-Dill Baked Halibut. Stuff city! There also will be mashed potatoes, rice pilaf, several salads, steamed vegetables, and rolls and butter. Dessert will be Cheesecake with Strawberry or Cherry sauce, Chocolate Cream Pie, and Pumpkin Pie with Whipped Cream. The AARC is partially subsidizing the normal \$22/person meal cost in honor of the joint gathering on such a joyous occasion, which brings down the cost for each adult to \$15.00 per person (for everyone) in attendance. Children 12 and under are \$10.00 each. An excellent value!

Special report!! The QCWA annual dinner was held at the same place, and the food was superb! Many compared it to the best in town (no kidding) and several comments of "better than the Regal" were heard. Hot, plentiful, and well prepared. The bartender was generous too.

There will also be a "Chinese auction" after dinner. Those of you that have been to previous Christmas parties know of the fun had by all during the seemingly endless taunting of gift swapping. **Remember! If you wish to participate in the gift exchange, please bring a gift.** If you do not wish to participate, that is OK too, we are sure you will enjoy the event in any case.

The official rules for the Chinese Gift Exchange are as follows:

1. **Everyone attending must bring a gift if they want to participate in the gift exchange.** That is, if you are the only person in your party, bring (1) gift. If there are two people in your party, then bring two gifts, four people, four gifts, etc. It may be humorous or something worth while, and it need not be gender orientated. It need not be expensive or new, but please do not bring a "boat anchor." This is a good way to move that otherwise nice gift you got that "just doesn't fit" in your scheme of things.

2. **The gift must be disguised by being wrapped or put in a box to conceal its true identity.** All gifts will be placed together on a table or in a designated area. Do not place a card or other identifying mark on the gift, and do not indicate who it is from.

3. **One ticket with a number printed on it will be given to each person bringing a gift.** In other words, you will exchange a gift for a numbered ticket. No gift no ticket! Also, only one ticket to a person. However, you may bring an extra gift and donate it to the cause (see rule 10).

4. At the beginning of the Chinese Gift Exchange, a number is drawn and the person holding the first ticket with that number exchanges his or her ticket for any one of the unopened gifts, which he/she must open and show to everyone. This person now will have the option of exchanging this first gift (or any other gift that they may receive as part of an exchange) with any other gift at the conclusion of the event (see rules 10 and 12). Only the person holding the first ticket drawn shall have this privilege.

5. Another number is then drawn and that person exchanges his or her ticket for an unopened gift. This person now has the option of either opening the gift or exchanging it with the first person's gift.

6. The process continues, with each subsequent person either opening a gift or exchanging an unopened package for a previously opened gift. See also rule 10.

7. If an unopened gift is exchanged for a previously opened gift, the person receiving the unopened gift has the option of either opening the gift or exchanging it with another person's opened gift.

8. **An unopened gift may be exchanged only three times per round**, then that gift must be opened, and another number must be drawn for the next person. **This "round" limit may be shortened depending on the number of persons participating in the gift exchange and the nearness of the hour to relinquish the room.** Important rule clarification: The limit on exchanges per round means only that a gift may

be traded a maximum number of times during any one round. This does not, however, mean that the gift is "safe" after that round is ended. **The gift becomes vulnerable to trading immediately when the next round starts!** Again, no gift is "safe" until the event is completely over.

9. **Gifts may not be traded directly back and forth in immediate succession.** A person "losing" an opened gift to someone in exchange for an unopened gift may not immediately reclaim the gift from the "taker" in exchange for the unopened gift. At least one additional exchange involving a third person must intervene before a person can reclaim a gift.

10. **Only unopened gifts may be exchanged for opened gifts.** Gifts that have been opened may not be exchanged for other gifts, opened or not. The sole exception being that the first person to draw a ticket may exchange his or her gift for any other gift one time only at the conclusion of the event. The first person chosen will also have the option of exchanging his or her gift as the final exchange of the event. Any gifts purchased at auction must be exchanged (or not) before the final "first person" exchange takes place.

11. If there happens to be an extra gift or gifts left over, they will be auctioned off, with the money going to the club treasury. This money may also be used to defray any additional costs related to the event. **Gifts purchased at auction may be traded for other opened gifts in the normal manner.**

12. When all gifts have been opened, and the first person to be chosen has either exchanged or not exchanged whatever gift they hold, the event is over.

Please Notify one of the names listed below of your intent to attend, so we may plan on the proper number of meals.

John Lynn, KL0CY (or Edyth, KL0EO) 337-1091

Jimmie Tvrdy, KL7CDG 345-3063

Jim Wiley, KL7CC 338-0662

Email to: jwiley@alaska.net (or) johnlynn@gci.net

If you reach a message machine at any of the above numbers, please be sure you tell us your name, call, how many persons will be in your party, and that you are making reservations for the combined Christmas party.

NEWS FROM THE HEAD SHED

Some of the information appearing herein originally appeared in "The ARRL Letter", published by ARRL.

The new regulations set new MPE limits.

Some of the categorical exemptions for the Amateur Radio Service have been eliminated. As they always have, hams are required to meet the limits for MPE. As first announced, the

rules set a threshold of 50 watts PEP to trigger the need for amateurs to conduct a "routine station evaluation" of their station's operation. The ARRL petitioned the FCC to increase this limit, scaled to match the way the regulations vary with frequency. The Second MO&O announced a rules change that increased the exempted power level on most amateur bands. Amateur stations using less than the limits shown in the table in the regulations or mobile or portable stations using push-to-talk do not need to be evaluated. They still must meet the exposure levels in the rules, but by virtue of their relatively low power, they are presumed to be in compliance. Most hams are already in compliance with the MPE requirements. Some hams will need to conduct a simple evaluation, with most using the lookup tables being prepared by the FCC to determine if their antennas are far enough away from areas of exposure for the mode and power they are using. The FCC has prepared a bulletin, OET Bulletin 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," that contains some of the information Amateur Radio operators will need to complete this evaluation. Bulletin 65 was released on August 25, 1997. A separate rule for the Amateur Radio Service was released on November 18, 1997. Most hams will use the simple tables that are going to be part of the supplement, but they can also use other methods of evaluation, such as computer modeling or actual field-strength measurements.

Mississippi Ham awaits decision

A Mississippi ham arrested for interfering with his neighbors' telephones is awaiting a decision on his request to throw out the complaint on the grounds that the state court has no jurisdiction in the matter. ARRL member Bennie Stewart, KJ6TY, of Meridian, was arrested and charged September 10 after a neighbor filed a complaint with the Lauderdale County Justice Court.

Stewart, a ham for 12 years, appeared in court October 26. He says his attorney, Felecia Perkins, filed a request to dismiss the complaint, brought under a Mississippi law that makes it illegal to "intentionally obstruct, injure, break or destroy, or in any manner interrupt any telegraph or telephone line or communication thereon between any two points." Stewart maintains that only the FCC has jurisdiction, and his station is operating properly.

The ARRL has provided legal defense assistance to Stewart's attorney. The case has been continued while the court mulls its decision. If convicted, Stewart faces a fine of up to \$500, six months in jail, or both.

"It should have never gotten to this point in the first place," Stewart said, adding that he's tried to work with his neighbors regarding telephone interference ever since the first complaints arose three or four years ago. "I put myself on a schedule," he said, explaining that he operates on 40, 20, and 10 meters only on weekday mornings. He says he never operates on weekends, only runs 100 W, and no longer owns a linear amplifier.

"The problem is not here," he says of his station. A retired professional photographer, the 60-year-old Stewart is confined to a wheelchair. He described his arrest—which he says took place in front of his three-year-old granddaughter—as "humiliating." Stewart says he expects the court to rule on the case very soon.

Hf Buzz Saw

"The HF buzz saw is dead; long live the HF buzz saw!" That might be the cry from the crowd these days as various buzzing intruders have been showing up with some regularity on HF. Sometimes, though, it's hard to distinguish one intruder from the other on the basis of anecdotal reports from amateurs. Recent reports of the so-called 125-Hz "buzz saw" intruder on the 80-meter band are a case in point. The intruder—heard primarily in the US northeast—had plagued amateurs as well as an aeronautical weather station just below 80. In the wake of protests from amateurs and coordination between the ARRL and Radio Amateurs of Canada, the transmissions—determined to come from two HF surface wave radar facilities in Newfoundland—moved off the amateur band. The signal has not been heard on 80 meters since early October. IARU Region 2 Monitoring System Coordinator Martin Potter, VE3OAT, credited ARRL and RAC assistance in getting the HFSWR systems moved off the amateur bands. The HF surface wave radar sites in Newfoundland are a joint project of Canada's Department of National Defence and Canadian industry. Canadian officials see the technology as playing a role in maintaining Canada's territorial sovereignty as well as for search-and-rescue operations and to assist in combating illegal immigration and drug smuggling. Responding to the initial "buzz saw" reports, amateurs in the US and elsewhere alerted the ARRL Monitoring System to a plethora of signals they claimed were the now-infamous intruder. It's now clear, however, that a similar mystery visitor on 40 meters is not coming from the Newfoundland HFSWR facilities. "Although a number of additional reports of buzz-like interference were received from the western USA and elsewhere, none could be confirmed as due to the same signal," Potter said. The signal has been widely reported in Region 1.

ARRL member Dave Bower, K1FK, in extreme northern Maine was the first to report—and graph—both the "original" 80-meter buzz saw as well as the more-recent 40-meter signal. "Although it sounds similar, it has three distinctly different characteristics," he said. The signal's sidebands extend 7 kHz either side and "it is a frequency hopper, moving randomly in time and frequency steps."

Steve Yates, AA5TB, in Fort Worth, Texas, also has monitored, graphed and recorded the 40-meter signal, and his observations are consistent with Bowker's. "The transmissions would jump frequencies every few minutes but not at regular intervals," he says. He reports measuring the different transmission center frequencies at about 7020, 7040, 7050, 7070, 7080 and 7090 kHz, and believes the signals came from the same transmitter. The IARU Region 2 Monitoring System now refers to the 40-meter intruder as an "unusual jammer,"

but concedes, "If the signal is truly a jammer, it is not clear who or what the target is." Potter says the signal is modulated by strong harmonics of 50 Hz and 100 Hz and seems to be associated with a "wobble" or "bubble" jammer on the same frequencies.

Another "buzzer" on 3795 kHz has been reported to the ARRL Monitoring System from hams in various parts of the US including Rich Chatelain, K7ZV, in California, and Bill Avery, K6GNX, in Nevada. Both agree that the signal appears to be coming from somewhere along the Utah-Nevada border. "It transmits for 80 seconds every five minutes. It is approximately 20 kHz wide," Avery said.

Potter says the 3795 kHz signal is worthy of further investigation. Additional reports and observations are welcome to ARRL Monitoring System Administrator Tom Hogerty, KC1J.

FCC Make headway on vanity calls

There's additional progress to report on the vanity call sign front. The FCC reported November 5 that it had processed vanity call sign applications received through September 7. "Slowly but surely," says the ULS Task Force.

It appears from FCC records that 1528 vanity applications were filed between August 16--the first day of Universal Licensing System Amateur Service deployment--and October 29. The FCC granted 524 vanity call signs since it resumed vanity processing in mid-September.

The FCC also says it's eyeing possible improvements to the Universal Licensing System. The ULS Task Force says it agrees that Microsoft Internet Explorer must be fully supported by the ULS, and the system will be modified to support it in early 2000. Right now, the ULS supports only the latest versions of *Netscape*. The FCC has given the Wireless Telecommunications Bureau authority to make ULS electronic filing available via the Internet provided "security concerns can be overcome." While no formal determination has been made to go with Internet or Web access instead of a dial-up connection, the WTB reportedly is taking steps to make online filing available and could do so as early as the first quarter of next year.

The ULS Task Force also says it's looking into more beta testing of ULS software prior to public release.

New FCC Enforcement Official

The FCC will create two new bureaus--the Enforcement Bureau and the Consumer Information Bureau--effective November 8. FCC Chairman William Kennard made the announcement during testimony October 26 before the House Telecommunications Subcommittee on the FCC's Five-Year Strategic Plan.

"Our decision to establish bureaus devoted exclusively to enforcement and consumer information signals the enormous importance of these functions in our transition from an industry regulator to a market facilitator," Kennard said.

As expected, FCC Deputy General Counsel David H. Solomon was named to head the Enforcement Bureau. The new bureau will consolidate enforcement functions--including amateur--and personnel from the Commission's existing Common Carrier, Mass Media, Wireless Telecommunications and Compliance and Information Bureaus. Solomon has been Deputy General Counsel since 1994.

Current FCC Legal Adviser for Enforcement Riley Hollingsworth, K4ZDH, says he hopes the reorganization eventually will permit him to increase the amount of time he's able to devote to Amateur Radio enforcement. Hollingsworth will get a new title as part of the reorganization: Special Counsel for Amateur Radio Enforcement.

In a surprise move, Kennard announced his intention to name Lorraine C. Miller to be Bureau Chief of the new Consumer Information Bureau. Miller now directs the Office of Congressional Relations at the Federal Trade Commission. Current Compliance and Information Bureau Chief Richard Lee had been expected to become the new CIB chief. Instead, Lee has been appointed Senior Director of Licensing Analysis in the Chairman's office. The new CIB will consolidate the FCC's Gettysburg Call Center (to be renamed the Consumer Center) as well as staff from various bureaus who handle consumer complaints and public information requests. Hollingsworth has agreed to be detailed from the new Enforcement Bureau to the new Consumer Information Bureau to handle the Consumer Center at Gettysburg after the new bureaus become effective November 8. The temporary duty will last four to six weeks. Hollingsworth says Amateur Radio enforcement will be his priority.

PROPAGATION REPORT

Average solar flux was down, and sunspot numbers were up this past week. This is because solar flux peaked at 197.3 on October 27, and the high sunspot values were on October 26, 28 and 29, when they were 200, 214 and 217. Since the reporting week for this bulletin began on October 28, this made some funny averages. At least over the past week geomagnetic disturbances had died down. Planetary K indices over the past few days have often been 1 or 2, and even 0 on November 3. Solar flux should rise over the next few days, with the Friday through Sunday values at 150, 155 and 165. Planetary A indices for those days are predicted to be 7, 7 and 15, and the mid-latitude, or Fredericksburg A indices are predicted to be 5, 10 and 15. So for the ARRL CW Sweepstakes this weekend conditions could start to get a little rough on Sunday. Geomagnetic indices may remain high through the week, and solar flux may peak on the following weekend around 190 or 200. Another peak in solar flux may return around November 23 or 24. Sunspot numbers for October 28 through November 3 were 196, 214, 217, 194, 178, 124 and 117 with a mean of 177.1. 10.7 cm flux was 183.9, 179.6, 169.4, 160.4, 150.6, 142.8 and 143.1, with a mean of 161.4, and estimated planetary A indices were 16, 10, 7, 10, 10, 6 and 5, with a mean of 9.1.

PHASE 3D NEWS
MONDAY NOVEMBER 1, 1999

Arianespace Launch To Benefit Amateur Radio Operators

Geneva - on 15-Oct-99 at Telecom '99, Arianespace and AMSAT-DL, the German branch of the international amateur radio satellite community, announced the signing of a launch contract for the AMSAT Phase 3-D communications satellite, to be carried aloft on an Ariane 5 as auxiliary payload.

The launch will take place in the year 2000 from Europe's Spaceport in Kourou, French Guiana. AMSAT Phase 3D will be one of the first secondary payloads boosted by Ariane 5, which will use a special adapter for orbital injection.

Weighing 650 kg (1,430 lb) at launch, AMSAT Phase 3-D will be injected into a geostationary transfer orbit. It will then use its own propulsion system to reach elliptical orbit (4,000 x 47,000 km, inclined at 60 degrees), where it will be used as a relay by the international community of amateur radio operators for nearly ten years.

In 2000, Arianespace will also inaugurate its new ASAP-5 (Ariane Structure for Auxiliary Payloads), designed for micro-satellites weighing less than 100 kg (220 lb) or mini-satellites weighing less than 300 kg (660 lb). ASAP-5 replaces the previous-generation ASAP-4, which has been used 6 times on Ariane 4.

Arianespace has orbited some 27 auxiliary payloads since 1980.

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Here's a great story about Amateur Radio's involvement in Y2K preparations. Among those interviewed are Colorado's Section Manager Tim Armagost, WB0TUB, and Public Information Coordinator Erik Dyce, W0ERX.
<http://www.westword.com/issues/1999-11-04/news2.html>

Radio Stars

The world may be in the hands of a bunch of hams on New Year's Eve. By Julie Jargon

Erik Dyce won't spend the waning hours of December 31 partying like it's the end of 1999. He'll be ringing in the new year in a windowless office in the basement of the Denver City and County Building, bracing for the worst.

Dyce will be one of hundreds of amateur radio operators, or "hams," as they are called, stationed throughout the state on New Year's Eve, ready to dispatch police, firefighters and paramedics should their normal communication systems fail when the clock strikes midnight. It's a job they are well prepared to do. "Whenever there's a hurricane or earthquake and phone lines are down, it's amateur radio operators who get

communications out," says Dyce, whose clear booming voice sounds like it belongs to a professional radio DJ.

But the possibility that the millennium computer bug could have disastrous consequences all over the world has forced amateur radio operators into a brighter spotlight than they have ever known.

Under Federal Communication Commission guidelines, hams are not allowed to use their radios for commercial purposes. They take to the airwaves as a hobby or to help out in times of crisis, and they must be licensed by the FCC. To get a license, all an amateur radio buff has to do is pass a multiple-choice test and pay a \$6.25 fee; in Colorado, there are approximately 14,000 licensed ham-radio operators, about 400 of whom will be on hand New Year's Eve to provide communication backup for various cities and counties.

"Ham radios don't care what date it is," says Larry Cerney, the Amateur Radio Emergency Service's coordinator for Denver and the Front Range. "They're generally battery-powered and therefore not restricted to commercial power. It's an old technology that's immune to the Y2K bug. If sophisticated communications systems fail due to embedded processors not recognizing the date, amateur radio operators will be able to step in and pick up."

On December 31, approximately 75 people, including Dyce, will be stationed in the Denver Office of Emergency Management in a bleak, cavernous room filled with computers, telephones and machines with blinking lights. Their work stations have already been labeled: police, public works, aviation, parks and recreation, RTD, public service. At each of the tables is a radio -- though not a ham radio -- that will allow the person sitting there to access any channel in his prescribed area; for example, the emergency coordinator for Denver International Airport will be able to communicate with all airport personnel. But if those systems fail, the four ham radios in the back of the "war room" will be able to relay messages.

"The first midnight will start somewhere around New Zealand," says Dyce, who also serves as director of marketing for the city's division of theaters and arenas. "As those different New Year's celebrations occur, we'll be listening in to make sure everyone's okay, and if anything has happened, we'll know what. We'll be able to communicate what we learn to the powers that be." Staffers from Mayor Wellington Webb's office will relay messages to members of the media who will be camped out across the hall, Dyce says, ready to inform television viewers and commercial radio listeners about how the world is running as the century comes to a close.

There will probably be only two ham-radio operators at a time in the city's bunker, and each will work a four- to six-hour shift (other emergency personnel will work twelve-hour shifts) until it's clear that the new millennium has dawned smoothly. "Ham-radio operators are a standard recognized resource when we lose our communications," says Tim Cuthriell, director of Denver's Office of Emergency Management. "We wouldn't do this without them."

"If telephones go down -- which we don't think will occur -- we would immediately be employed, because telephone traffic would resort to radios, and their capacity would be exceeded," says Dyce, adding that the worst-case scenario would consist of normal radio systems failing entirely when their back-up power supply runs out. "If that happened, we'd be able to get hold of people at the state Department of Emergency Management, which will have a bunker at Camp George in Golden or at the Federal Emergency Management Agency in the federal center."

Tim Armagost, the Colorado section manager for the American Radio Relay League, the national organization that oversees ham-radio operators, will be coordinating hams on New Year's Eve. "We'll have hams scattered throughout the state -- at hospitals, fire stations and sheriff's offices. And we'll have a ham-radio link between the National Poison Control Center at the old Lowry [Air Force base] and the headquarters in Virginia," he says. "Normally, people aren't aware that we perform these duties. Suddenly, everyone is looking at us and saying, 'Gee whiz.'"

Armagost, who has been dabbling in amateur radio for forty years, compares communicating via ham radio to "standing in a crowd and yelling, 'Anyone want to talk?'" He says any number of hams can be tuned in at the same time in any given country; to speak to someone in a certain locale, all a ham has to do is tune his transmitter to the correct frequency and say, "CQ, CQ, this is WB0TUB [Armagost's own call number]. Does anyone want to talk? If someone happens to be listening and wants to talk, they talk."

The "CQ" greeting evolved from people saying "seek you" on the airwaves, explains Dyce, who developed his love for ham radio 31 years ago, when he was a Boy Scout. A kid in his troop who had been blinded in a hunting accident used his radio to "see" the world and invited Dyce to join him in his overseas travels. "As an eight-year-old, that was the coolest thing I'd ever been exposed to. I could talk to people in Russia, Turkey...countries I'd never even heard of," the 39-year-old Dyce says with an excitement that is still fresh. "Hams talk about everything from politics and electronics to what equipment they're using."

No one is sure how ham radio got its name. Dyce has heard that the letters stand for the names of the first guys who experimented with radio communication in the early part of this century. "You know, like Harry, Arthur and Mike." But Armagost's favorite story is the one about telephone operators who knew Morse code. "They'd earn their ham and eggs by tapping on keys," he says. "But the ham operators just earned ham -- they were just doing it for fun."

When Dyce is not working, he volunteers his time responding to 911 outages -- he says they occur weekly due to the disturbance of phone lines by construction equipment -- and

other emergencies. During World Youth Day in 1993, when droves of Papal Mass attendees passed out in Cherry Creek State Park from the hot weather, it was hams who radioed for more water. When a tornado tore through Limon a few years back, communication was restored by ham-radio operators. And two years ago this month, when a blizzard stranded motorists on I-25, Dyce was called in to dispatch emergency workers to transport people from their cars to a makeshift shelter at Park Meadows Shopping Center. "They were evacuating people from their cars in Hummers. It looked like a military zone," recalls Dyce, who used his own four-wheel-drive vehicle to pick up prescriptions for people at a 24-hour Walgreens.

Last month his hobby hit closer to home when Hurricane Floyd ravaged his native Rocky Mount, North Carolina. "I learned that my dad's house had been flooded, and I got on a plane to help him. Most of the roads were flooded, so I got the frequency of the state's emergency management office and contacted them to find out which roads were closed," says Dyce, whose ham-radio credentials also gained him access to parts of town open only to emergency personnel. "I would not have been able to reach him if it weren't for being an amateur radio operator."

"There's a long tradition of using ham radios in emergencies dating back to the early days before telephones were widespread and when telephone wires were aboveground," adds Cerney, who has held an amateur-radio license since 1991. "Even below-ground telephone wires are subject to failure due to weather."

But no one needs to worry about ham radios going on the fritz, he says. "I have batteries in my house that will run my station for two weeks and a generator that will recharge those batteries, if need be."

Cerney will be at his home in Denver on New Year's Eve, dispatching operators and listening to his radio. "Most ham operators have cigarette-lighter chargers that plug into their cars. Some radios are solar-powered. So as long as there's gasoline in cars and generators, and as long as the sun comes up in the morning, ham radios will work."

So for people who regard New Year's Eve with dread, Dyce says the best thing to do is to spend the evening with a ham. However, there will be no champagne toasts for the ham-radio operators assisting local governments. "It will be a dry night -- no alcohol allowed," he says. Although hams see Y2K as a great opportunity to show the public how their hobby can help people, deep down, Dyce would rather be celebrating like everyone else.

"It's a bummer," he says. "But it's the right thing to do."

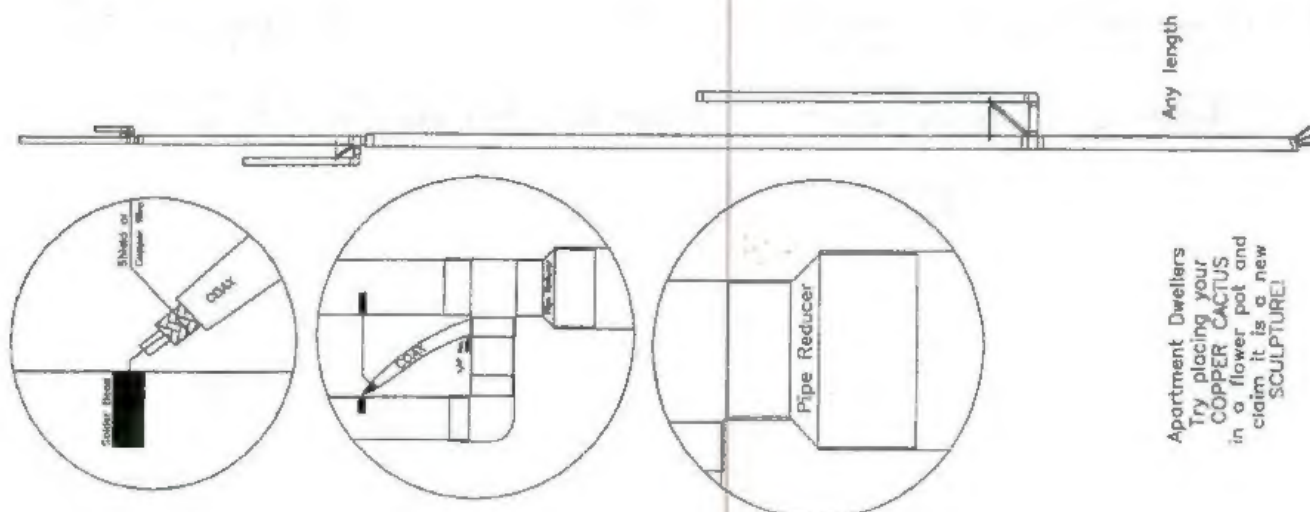
The COPPER CACTUS Antenna By: Gary - KG0ZP

I hope you are already familiar with the construction of the standard J-Pole antenna, so I won't go into any unnecessary detail. The antenna may be built as a MonoBander, DuoBander, TriBander, QuadBander or whatever with great success. You can either feed it with separate coax's for each band or a single coax, however, separate coax's make it much easier to tune. There's no trick to building them, just remember the overall length is for the lowest frequency of operation. In other words, a MonoBander, DualBander and TriBander are all exactly the same length overall 58.09" on 2mtrs. Feed the coax up the center of the pipes. Use T-Fittings at the proper distance below the top of the antenna for the desired frequency. The only problem is that the more bands you try to incorporate into the antenna, the harder it is to get the SWR flat on all bands. Here are the numbers you are looking for:

Frequency	52MHz	146MHz	223.5MHz	435MHz	912MHz	1265MHz
Pipe Dia.	1"	3/4"	1/2"	1/2"	3/8"	3/8"
Stub	54.70"	19.36"	12.65"	6.46"	3.02"	2.16"
Overall Length	163.92"	58.09"	37.94"	19.39"	9.07"	6.49"
Separation	5"	2"	1-1/4"	3/4"	1/2"	1/4"
Connect at	6"	2-1/4"	1-1/2"	1"	3/4"	1/2"

For best results, build the highest band first, for eg. the 435MHz antenna. If you really want it to look neat, use 3/8" copper for the vertical and 1/4" copper for the transformer section (stub). Naturally the finished product will be in the shape of a "J". Now build the next band, for eg. the 223.5MHz antenna, by adding pipe to the T-connector that is the base (mast mount) of the 435MHz antenna, I use 1/2" for the vertical and 3/8" for the stub of this section. Now build the 146MHz antenna, don't forget the overall length of the antenna is the lowest frequency you will be using. I use 3/4" for the vertical and 1/2" for the stub. The stub must be parallel to the vertical, however you can point the base of each stub in any direction you like. I prefer 3 equal distant points, but you can make them all on the same side if you wish. I feel the three points make it look like a cactus. My measurements on overall length, and stub length are from the centerline of the separation pipe (horizontal) to the top of the antenna. The Separation distance is technically from centerline to centerline, but inside measurements are fine and visually look better. Some of the measurements are less than physically possible, in this case just push the T-Fitting and elbow as close together as you can get them, no need to trim the fittings. The Connect at measurement is from the top of the horizontal member to the point of connection. Final Note: If you use 1/2" pipe for all the construction, on the 2-meter stub, add 1/4" to its length, or use pipe-caps and adjust them up or down to get the 1/4" additional length. The antenna should be in perfect tune, SWR less than 1.2 - 1 on all bands, using separate coax for each band. Solder all the joints before installing the coax, any pipe you have left over can be used as the mast. To install the coax, drill a 1/4" hole in the top of the horizontal part of each T-fitting closest to the vertical, then tilt the drill at an angle, so that the drill bit is sorta heading down the vertical. Enjoy Building: If you have any questions just ask, or further instructions, just send me a message and I will promptly respond. PS Until you are familiar with the construction techniques of the J-Pole, I wouldn't attempt any more than three bands the first time out. In fact, A dual-bander, using the above dimensions will be perfect every time.

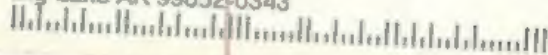
73s de Gary - KG0ZP



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(See pages 3 and 4)